

***What Is Claimed Is:***

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

5 (a) a nucleotide sequence encoding a polypeptide comprising amino acids from about 1 to about 640 in SEQ ID NO:2;

(b) a nucleotide sequence encoding a polypeptide comprising amino acids from about 2 to about 640 in SEQ ID NO:2;

10 (c) a nucleotide sequence encoding a polypeptide comprising amino acids from about 7 to about 350 in SEQ ID NO:2;

(d) a nucleotide sequence encoding a polypeptide comprising amino acids from about 50 to about 389 in SEQ ID NO:2;

(e) a nucleotide sequence encoding a polypeptide comprising amino acids from about 443 to about 474 in SEQ ID NO:2;

15 (f) a nucleotide sequence encoding a polypeptide comprising amino acids from about 516 to about 640 in SEQ ID NO:2

(g) a nucleotide sequence encoding a polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97863; and

20 (h) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c), (d), (e), (f), or (g).

2. An isolated nucleic acid molecule comprising a polynucleotide which hybridizes under stringent hybridization conditions to a polynucleotide having a nucleotide sequence identical to a nucleotide sequence in (a), (b), (c), (d),  
25 (e), (f), (g), or (h) of claim 1 wherein said polynucleotide which hybridizes does not hybridize under stringent hybridization conditions to a polynucleotide having a nucleotide sequence consisting of only A residues or of only T residues.

3. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 1 into a vector.

4. A recombinant vector produced by the method of claim 3.

5. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 4 into a host cell.

6. A recombinant host cell produced by the method of claim 5.

7. A recombinant method for producing an ELL2 polypeptide, comprising culturing the recombinant host cell of claim 6 under conditions such that said polypeptide is expressed and recovering said polypeptide.

8. The isolated nucleic acid molecule as claimed in claim 1, wherein said isolated nucleic acid molecule is not the nucleic acid molecule or nucleic acid insert identified in the following GenBank Accession Reports: W92650, W94585, AA243384, AA655966, N39822, AA545429, R16400, T89063, AA370048, AA375277, R12663, AA414990, AA252607, AA191245, AA524290, AA370180, Z20670, and AA009921.

9. An isolated nucleic acid molecule comprising a polynucleotide having a sequence at least 95% identical to a sequence selected from the group consisting of:

(a) the nucleotide sequence of a fragment of the sequence shown in SEQ ID NO:1, wherein said fragment comprises at least 20 contiguous nucleotides of SEQ ID NO:1, provided that said nucleotide sequence is not HPRAE28R (SEQ ID NO:9), HSBAL43R (SEQ ID NO:10), HNEAK22RA (SEQ ID NO:11), HPRTS01R (SEQ ID NO:12), HBWAL95R (SEQ ID NO:13), HSXCR53RA (SEQ ID NO:14), W92650 (SEQ ID NO:15), W94585 (SEQ ID NO:16), AA243384 (SEQ ID NO:17), AA655966 (SEQ ID NO:18), N39822

(SEQ ID NO:19), AA545429 (SEQ ID NO:20), R16400 (SEQ ID NO:21), T89063 (SEQ ID NO:22), AA370048 (SEQ ID NO:23), AA375277 (SEQ ID NO:24), R12663 (SEQ ID NO:25), AA414990 (SEQ ID NO:26), AA252607 (SEQ ID NO:27), AA191245 (SEQ ID NO:28), AA524290 (SEQ ID NO:29), AA370180 (SEQ ID NO:30), Z20670 (SEQ ID NO:31), and AA009921 (SEQ ID NO:32) or any subfragment thereof; and

(b) a nucleotide sequence complementary to a nucleotide sequence in (a).

10. The nucleotide sequence of a fragment of claim 9, wherein said fragment comprises at least 50 contiguous nucleotides of SEQ ID NO:1.

11. An isolated ELL2 polypeptide having an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) amino acids from about 1 to about 640 in SEQ ID NO:2;  
(b) amino acids from about 2 to about 640 in SEQ ID NO:2;  
(c) amino acids from about 7 to about 350 in SEQ ID NO:2;  
(d) amino acids from about 50 to about 389 in SEQ ID NO:2;  
(e) amino acids from about 443 to about 474 in SEQ ID NO:2;  
(f) amino acids from about 516 to about 640 in SEQ ID NO:2;  
(g) the amino acid sequence of the ELL2 polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97863; and

(h) the amino acid sequence of an epitope-bearing portion of any one of the polypeptides of (a), (b), (c), (d), (e), (f), or (g).

12. An isolated antibody that binds specifically to an ELL2 polypeptide of claim 11.

13. A method for the treatment of a subject having need to inhibit ELL2 protein activity, comprising:

(a) administering to the subject a therapeutically effective amount of an antagonist to said protein; and/or

(b) administering to the subject a nucleic acid molecule that inhibits the expression of the nucleotide sequence encoding said protein; and/or

5 (c) administering to the subject a therapeutically effective amount of a polypeptide that competes with said protein for binding to a ligand.

14. A method for diagnosing or determining a susceptibility to neoplastic disorders, comprising:

10 (a) assaying ELL2 protein gene expression level in mammalian cells or body fluid; and

(b) comparing said ELL2 protein gene expression level with a standard ELL2 protein gene expression level whereby an increase or decrease in said ELL2 gene expression level over said standard is indicative of an increased or decreased susceptibility to a neoplastic disorder.

15 15. The method of claim 14, wherein said ELL2 gene expression level is assayed by detecting ELL2 protein with an antibody.

16. The method of claim 14, wherein said ELL2 gene expression level is assayed by detecting ELL2 mRNA levels.

20 17. A method for identifying compounds which bind to an ELL2 polypeptide, comprising:

(a) contacting cells of claim 6 with a candidate compound; and

(b) assessing the ability of said candidate compound to bind to said cells.

25 18. An isolated nucleic acid molecule comprising an ELL2 structural gene operably linked to a heterologous promoter.

19. The isolated nucleic acid molecule as claimed in claim 18, wherein said isolated nucleic acid molecule does not encode a fusion protein comprising the ELL2 structural gene or a fragment thereof.

20. The isolated nucleic acid molecule as claimed in claim 18, wherein said isolated nucleic acid molecule does not encode a  $\beta$ -galactosidase-ELL2 fusion protein.

21. The isolated nucleic acid molecule as claimed in claim 18, wherein said isolated nucleic acid molecule is capable of expressing an ELL2 polypeptide, wherein said ELL2 polypeptide does not contain and is not covalently linked to an amino acid sequence encoded by the 5' untranslated portion of the ELL2 gene.

22. The isolated nucleic acid molecule as claimed in claim 1, wherein said isolated nucleic acid does not contain a nucleotide sequence at least 90% identical or 90% complementary to the 3' untranslated region of SEQ ID NO:1 or a fragment thereof greater than 25 nucleotides in length.

23. The isolated nucleic acid molecule as claimed in claim 1, wherein said isolated nucleic acid does not contain a nucleotide sequence at least 90% identical or 90% complementary to the 5' untranslated region of SEQ ID NO:1 or a fragment thereof greater than 25 nucleotides in length.